



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

January 7, 2015

Gordon Sargent
BASF Corporation
25 Davis Drive
Research Triangle Park, NC 27709

Subject: Labeling Notification per Pesticide Registration Notice (PRN) 98-10 – to update the warranty statement and registrant name
Product Name: Subtilex® NG Biological Fungicide
EPA Registration Number: 71840-8
Application Date: 3/18/14 (received 10/20/14)
OPP Decision Number: 497698

Dear Mr. Sargent:

The U.S. Environmental Protection Agency (EPA) is in receipt of your application for pesticide notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Biopesticides and Pollution Prevention Division (BPPD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The labeling submitted with this application has been stamped “Notification” and will be placed in our records. Submit one (1) copy of the final printed labeling with the modifications.

If you have any questions, you may contact Ann Sibold of my team at 703 305-6502 or via email at sibold.ann@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Shannon Borges", is located below the "Sincerely," text.

Shannon Borges, Team Leader
Microbial Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511P)
Office of Pesticide Programs



The Chemical Company

SUBTILEX® NG

Biological Fungicide

MASTER LABEL

Sub-label A: Agricultural Use Only – In-Furrow Treatment, Foliar Applications, or Applications to Soil or Growing Media

Sub-label B: Commercial Seed Treatment

ACTIVE INGREDIENT:

Bacillus subtilis, strain MBI 600*9.9%

OTHER INGREDIENTS:......90.1%

TOTAL:.....**100.0%**

* Contains not less than 5.5×10^{10} viable spores per gram

EPA Reg. No. 71840-8

EPA Est. No. 67064-IA-001

BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709

NOTIFICATION

01/07/2015

SUB-LABEL A

SUBTILEX® NG

Biological Fungicide

For Agricultural Use Only – In-Furrow Treatment, Foliar Applications, or Applications to Soil or Growing Media

ACTIVE INGREDIENT:

Bacillus subtilis, strain MBI 600*9.9%

OTHER INGREDIENTS:.....90.1%

TOTAL:.....**100.0%**

* Contains not less than 5.5×10^{10} viable spores per gram

KEEP OUT OF REACH OF CHILDREN

CAUTION

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

EPA Reg. No. 71840-8

EPA Est. No. 67064-IA-001

NET WEIGHT: 10 lb

BATCH CODE: Located on physical container.

FIRST AID	
If in eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information at 1-800-832-HELP (4357).</p>	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.

Mixers/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

Exception: if the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water), is:

- coveralls
- chemical-resistant gloves (made of any waterproof material)
- shoes plus socks

PRODUCT INFORMATION

SUBTILEX® NG contains bacteria that colonize developing root and shoot systems of plants, suppressing by competition disease organisms such as *Botrytis*, *Fusarium*, *Rhizoctonia*, and *Pythium* as well as those organisms causing powdery mildew and anthracnose. Protection against root and soil borne pathogens is extended throughout the growing season as bacteria grow with the roots. As a result of this biological protection, vigorous root and shoot systems are established by treated plants, resulting in more uniform stands and greater yields.

In addition, SUBTILEX® NG has been shown to increase the amount of nodulation by nitrogen-fixing bacteria when used on many legumes. This improvement in nodulation is a result of a healthier root system allowing more sites for nodules to form from inoculated or naturally occurring soil borne nitrogen-fixing bacteria.

SUBTILEX® NG is for use in-furrow, in soil or growing media, and for foliar applications to field- and greenhouse-grown crops. Apply SUBTILEX® NG using conventional application equipment as well as irrigation systems commonly used for chemigation.

FOR USE AS AN IN-FURROW TREATMENT

Apply SUBTILEX® NG as a water-based suspension alone, or with other in-furrow products (fungicides, insecticides, nematicides, fertilizers, etc.) via standard agricultural application machinery. Additionally, *Rhizobium* inoculant products such as BASF's HiStick® L Liquid Rhizobium Inoculant can also be added to the tank mix. Prior to mixing, determine physical compatibility by mixing proportional quantities of the products in water.

To mix, first add the other in-furrow products to the mix tank with approximately ½ of the required water. While stirring, slowly add the SUBTILEX® NG to the slurry until a uniform suspension is obtained. Add the remainder of the required water and maintain continuous agitation. Apply SUBTILEX® NG in 5 – 20 gallons (19-76 L) of water per acre. Do not store mixed slurries for longer than 72 hours.

Do not mix SUBTILEX® NG with any other in-furrow products containing a label prohibition against such mixing. When tank-mixing SUBTILEX® NG with any other registered in-furrow products (fungicides, insecticides, nematicides, fertilizers, etc.), observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Do not exceed label application dosage rates.

ATTENTION: If *Rhizobium* inoculants are to be used in the tank mix with other in-furrow products (fungicides, insecticides, nematicides, fertilizers, etc.), make sure that they are compatible (not harmful) to the *Rhizobium*. Likewise, use only chlorine-free water in the tank mix. Because some of the ingredients in SUBTILEX® NG may be insoluble, provide adequate agitation during the entire time the tank mix is being applied. If one or more products are not compatible (harmful), mix those products in and apply them from a separate mix tank.

PEANUTS, COTTON, POD VEGETABLES, SOYBEANS AND CORN

(Reference Table 1) Apply SUBTILEX® NG at 0.05-0.50 oz/acre (3.5 – 35.0 g/ha) following the application procedures listed above. Use the high end of the stated range when severe disease pressure is anticipated.

FOR USE AS A SOIL OR GROWING MEDIA TREATMENT

Apply SUBTILEX® NG as a water-based slurry to soil or growing media for preventative control and suppression of plant root pathogens *Rhizoctonia spp.*, *Pythium spp.* and *Fusarium spp.* SUBTILEX® NG can be tank-mixed with other registered insecticides, nematicides, fungicides or fertilizers. Prior to mixing, determine physical compatibility by mixing proportional quantities of the products in water.

Do not mix SUBTILEX® NG with any product containing a label prohibition against such mixing. When tank-mixing SUBTILEX® NG with any other soil or growing media treatment products, observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Do not exceed label application dosage rates.

APPLICATION RATES:**For pre-plant growing media amendment applications.**

Apply SUBTILEX® NG at a rate of 0.05 – 0.07 oz/ cubic yard of soil or growing media (1.8 – 2.6 g/cubic meter). Use the higher rate when environmental conditions are favorable for disease development. Apply SUBTILEX® NG as a water based slurry in a volume of water sufficient for uniform distribution. Typical application volume is 1 – 20 gal/cubic yard (5 – 100 L/cubic meter) of soil or growing media. Ensure product is thoroughly mixed into the soil or growing media.

For field and greenhouse post-plant applications.

(Reference Tables 1 and 2). Mix 0.2 – 0.4 oz. of SUBTILEX® NG in 100 gallons of water (15 – 30 g /1000 L). Use the higher rate when environmental conditions are favorable for disease development. Constant agitation is required to maintain SUBTILEX® NG in suspension. Apply evenly with conventional application equipment to thoroughly soak the growing media or soil through the root zone.

Container size	Min. drench volume (fl. oz. [mL])	Approximate number of containers treated per 100 gallons
Standard 4 inch (10 cm) round pot	1.5 [44]	8530
Standard 6 inch (15 cm) round pot	5.5 [163]	2330
Standard 8 inch (20 cm) round pot	12.75 [377]	1000

Begin applications during or after seeding, sticking of cuttings, or transplanting to pots, trays or containers, or when environmental conditions are favorable for disease development. For optimal control use every 21-28 days throughout the growing cycle.

FOR USE AS A FOLIAR TREATMENT
GREENHOUSE AND FIELD CROPS

SUBTILEX® NG provides broad spectrum control of several foliar diseases, including *Botrytis*, powdery mildew, and anthracnose. SUBTILEX® NG is most effective as a preventative treatment. Apply when environmental conditions are favorable for disease development, but prior to disease onset. SUBTILEX® NG can be tank-mixed with most fungicides, insecticides, and fertilizers, but determine physical compatibility prior to use by mixing proportional quantities of the products in water.

Do not mix SUBTILEX® NG with any product containing a label prohibition against such mixing. When tank-mixing SUBTILEX® NG with any other registered foliar treatment products (insecticides, fungicides, fertilizers, etc.) observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Do not exceed label dosage rates.

APPLICATION RATES

FIELD CROPS: (Reference Table 1). Apply SUBTILEX® NG at a rate of 1 - 3 lb/acre (1.12 - 3.36 kg/hectare) at 7 to 10 day intervals as needed. Use the stated higher rates of SUBTILEX® NG and the stated shorter application intervals when severe disease pressure is anticipated. Mix and apply SUBTILEX® NG in a sufficient volume of water to ensure uniform dispersion of product in the spray tank and thorough coverage of foliage and shoot tissue. Minimum application volume is 50 gal/acre (450 L/hectare). Constant agitation of the spray mixture during mixing and application is necessary to maintain uniform suspension.

GREENHOUSE CROPS: (Reference Table 2). Apply SUBTILEX® NG at a rate of 0.4 – 1.2 oz/1000 ft² (11 – 33 g/100 m²) at 7 to 10 day intervals as needed. Use the stated higher rates of SUBTILEX® NG and the stated shorter application intervals when severe disease pressure is anticipated. Mix and apply SUBTILEX® NG in a sufficient volume of water to ensure uniform dispersion of product in the spray tank and thorough coverage of foliage and shoot tissue. Minimum application volume is 1 gallon per 1000 ft².

Conversion chart

Teaspoons	Ounces
0.38 tsp	= 0.05 oz
½ tsp	= 0.07 oz
¾ tsp	= 0.1 oz
1½ tsp	= 0.2 oz
3 tsp	= 0.4 oz
3.84 tsp	= 0.5 oz
Tablespoons	Ounces
3 tbsp	= 1.2 oz

USES AND APPLICATION RATES FOR SELECTED CROPS

Table 1: Field Crops

Crops	USE	DISEASES	RATE
Agronomic Row or Other Field Crops: Cotton, Pod vegetables, Soybeans, Corn, Peanuts and other agronomic row crops	In-furrow	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.05- 0.50 oz/acre 3.5 – 35 g/ha Apply SUBTILEX® NG in 5 – 20 gallons (19-76 L) of water per acre.
Asparagus	Post-plant applications to soil.	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Botrytis blight (<i>Botrytis cinera</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Brassica (cole crops): Broccoli, Cabbage, Cauliflower, Brussels Sprouts, Collards, Kale, Mustard Greens, Kolrabi, and other brassica crops	Post-plant applications to soil.	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Erysiphe polygoni</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Bulb Vegetables: Onion, garlic, shallots and other bulb vegetables	Post-plant applications to soil.	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Botrytis neck rot (<i>Botrytis spp.</i>) Botrytis leaf blight (<i>Botrytis squamosa</i>) Powdery mildew (<i>Erysiphe spp.</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Berry Crops: Blueberry, Bushberry, Caneberry, other berry crops	Post-plant applications to soil.	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Botrytis Blight (<i>Botrytis cinerea</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Cucurbits: Cucumber, Cantaloupe, Melon, Muskmelon, Squash, Watermelon and other cucurbit crops	Post-plant applications to soil.	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Sphaerotheca spp.</i> , <i>Erysiphe spp.</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Flowers, Bedding Plants, Ornamentals, and Tropical Plants	Post-plant applications to soil.	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Gray mold (<i>Botrytis cinerea</i>) Powdery mildew (<i>Podoshaera spp.</i> , <i>Oidiopsis spp.</i> , <i>Sphaerotheca spp.</i> , <i>Erysiphe spp.</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**

Fruiting Vegetables: Pepper, Tomato, Eggplant, and other fruiting vegetables	Post-plant applications to soil.	<i>Rhizoctonia spp., Pythium spp. and Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Leveillula taurica, Oidiopsis taurica, Sphaerotheeca spp., Erysiphe spp.</i>) Gray mold (<i>Botrytis cinerea</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Grape	Post-plant applications to soil.	<i>Rhizoctonia spp., Pythium spp. and Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Gray mold (<i>Botrytis cinerea</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Leafy Vegetables: Lettuce, Celery, Spinach, Parsley and other vegetable crops	Post-plant applications to soil.	<i>Rhizoctonia spp., Pythium spp. and Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Erysiphe cichoracearum</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Pome Fruit: Apple, Crabapple, Pear, Quince, Mayhaw, and other pome fruit	Post-plant applications to soil.	<i>Rhizoctonia spp., Pythium spp. and Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Podosphaera leucotricacha</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Stone Fruit: Apricot, Cherry, Nectarine, Peach, Plum, Prune, and other stone fruit crop	Post-plant applications to soil.	<i>Rhizoctonia spp., Pythium spp. and Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Gray mold (<i>Botrytis cinerea</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Strawberry	Post-plant applications to soil.	<i>Rhizoctonia spp., Pythium spp. and Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Botrytis (<i>Botrytis spp.</i>) Gray mold (<i>Botrytis cinerea</i>) Powdery mildew (<i>Erysiphe spp., Sphaerotheeca macularis</i>) Anthracnose (<i>Colletotrichum spp.</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Trees and shrubs: Conifers, deciduous trees, shrubs, and other tree and shrub crops	Post-plant applications to soil.	<i>Rhizoctonia spp., Pythium spp. and Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Podosphaera spp., Oidiopsis spp., Sphaerotheeca spp., Erysiphe spp.</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**
Tuber/Root and Corm Vegetables: Carrot, Potato, Sweet Potato, Beets, Ginger, Horseradish, Ginseng, Turnip, and other tuber/root and corm crops	Post-plant applications to soil.	<i>Rhizoctonia spp., Pythium spp. and Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Erysiphe spp.</i>) Gray mold (<i>Botrytis spp.</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**

Turf, Sod, Lawns, and Golf Courses: Bluegrasses, Bentgrasses, Bermudagrass, Zoysiagrass and other grasses	Post-plant applications to soil.	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Erysiphe spp.</i>)	1.0-3.0 lb/acre** 1.12 – 3.36 kg/ha**

* Thoroughly soak soil through root zone

** Minimum application volume is 50 gal/acre (450 L/hectare)

Table 2: Greenhouse Crops

CROP	USE	DISEASES	RATE
Brassica (cole crops): Broccoli, Cabbage, Cauliflower, Brussels Sprouts, Collards, Kale, Mustard Greens, Kolrabi, and other brassica crops	Soil or growing media	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Erysiphe polygona</i>)	0.4-1.2 oz/1000 ft ^{2**} 12-37 g/100 m ^{2**}
Bulb Vegetables: Onion, garlic, shallots and other bulb vegetables	Soil or growing media	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Botrytis neck rot (<i>Botrytis spp.</i>) Botrytis leaf blight (<i>Botrytis squamosa</i>) Powdery mildew (<i>Erysiphe spp.</i>)	0.4-1.2 oz/1000 ft ^{2**} 12-37 g/100 m ^{2**}
Cucurbits: Cucumber, Cantaloupe, Melon, Muskmelon, Squash, Watermelon and other cucurbit crops	Soil or growing media	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Sphaerotheeca spp.</i> , <i>Erysiphe spp.</i>)	0.4-1.2 oz/1000 ft ^{2**} 12-37 g/100 m ^{2**}
Flowers, Bedding Plants, Ornamentals, and Tropical Plants	Soil or growing media	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Gray mold (<i>Botrytis cinerea</i>) Powdery mildew (<i>Podoshiera spp.</i> , <i>Oidiopsis spp.</i> , <i>Sphaerotheeca spp.</i> , <i>Erysiphe spp.</i>)	0.4-1.2 oz/1000 ft ^{2**} 12-37 g/100 m ^{2**}
Fruiting Vegetables: Pepper, Tomato, Eggplant, and other fruiting vegetables	Soil or growing media	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Leveillula taurica</i> , <i>Oidiopsis taurica</i> , <i>Sphaerotheeca spp.</i> , <i>Erysiphe spp.</i>) Gray mold (<i>Botrytis cinerea</i>)	0.4-1.2 oz/1000 ft ^{2**} 12-37 g/100 m ^{2**}
Leafy Vegetables: Lettuce, Celery, Spinach, Parsley and other vegetable crops	Soil or growing media	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Erysiphe cichoracearum</i>)	0.4-1.2 oz/1000 ft ^{2**} 12-37 g/100 m ^{2**}

Tuber/Root and Corm Vegetables: Carrot, Potato, Sweet Potato, Beets, Ginger, Horseradish, Ginseng, Turnip, and other tuber/root and corn crops	Soil or growing media	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	Powdery mildew (<i>Erysiphe spp.</i>) Gray mold (<i>Botrytis spp.</i>)	0.4-1.2 oz/1000 ft ^{2**} 12-37 g/100 m ^{2**}
Strawberry	Soil or growing media	<i>Rhizoctonia spp.</i> , <i>Pythium spp.</i> and <i>Fusarium spp.</i>	0.2-0.4 oz /100 gal* 15-30 g/1000 L*
	Foliar	<i>Botrytis (Botrytis spp.)</i> Gray mold (<i>Botrytis cinerea</i>) Powdery mildew (<i>Erysiphe spp.</i> , <i>Sphaerotheca macularis</i>) Anthracnose (<i>Colletotrichum spp.</i>)	0.4-1.2 oz/1000 ft ^{2**} 12-37 g/100 m ^{2**}

* Thoroughly soak soil or growing media through root zone

** Minimum application volume is 1 gallon per 1000 ft².

CHEMIGATION:

General Requirements –

- 1) Apply this product only through a drip (trickle) system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Specific Requirements for Chemigation Systems Connected to Public Water Systems –

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe

- and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
 - 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
 - 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
 - 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
 - 7) Apply SUBTILEX® NG at the end of the water application, and in sufficient water for adequate coverage without excessive run off. Set the metering pump to the selected label use rate. Agitate the pesticide supply tank throughout the application of SUBTILEX® NG.
 - 8) Do not apply when wind speed favors drift beyond the area intended for treatment.

Specific Requirements for Drip (Trickle) Chemigation –

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.

- 7) Apply SUBTILEX® NG at the end of the water application, and in sufficient water for adequate coverage without excessive run off. Set the metering pump to the selected label use rate. Agitate the pesticide supply tank throughout the application of SUBTILEX® NG.

Specific Requirements for Sprinkler Chemigation –

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.
- 7) Apply SUBTILEX® NG at the end of the water application, and in sufficient water for adequate coverage without excessive run off. Set the metering pump to the selected label use rate. Agitate the pesticide supply tank throughout the application of SUBTILEX® NG.
- 8) Do not apply when wind speed favors drift beyond the area intended for treatment.

Application Instructions –

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues, may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Store in a cool, dry place until used. Do not store this product near food, feed, seed, fertilizers or other pesticides.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling: Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

NOTICE – READ CAREFULLY BEFORE USING

Conditions of Sale and Warrantee

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as the presence of other or untested or unapproved materials, seed of low quality or low vigor or low germination, use of the product in a manner inconsistent with its labeling, misapplication of the product, or weather conditions at planting or environmental conditions during seed storage, all of which are beyond the control of BASF CORPORATION (“BASF”) or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER’S EXCLUSIVE REMEDY AND BASF’S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF THE PRODUCT.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

SUBTILEX and HiStick are registered trademarks of BASF.
Bacillus subtilis, strain MBI 600 is a product of BASF.

SUB-LABEL B

SUBTILEX® NG

Biological Fungicide

For Commercial Seed Treatment

ACTIVE INGREDIENT:

Bacillus subtilis, strain MBI 600*9.9%

OTHER INGREDIENTS:......90.1%

TOTAL:.....**100.0%**

* Contains not less than 5.5×10^{10} viable spores per gram

KEEP OUT OF REACH OF CHILDREN

CAUTION

For First Aid See Inside Panel

EPA Reg. No. 71840-8

EPA Est. No. 67064-IA-001

NET WEIGHT: 10 lb

BATCH CODE: Located on physical container.

FIRST AID	
If in eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information at 1-800-832-HELP (4357).</p>	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE)

Mixers/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Environmental Hazards

Do not contaminate water when disposing of equipment wash water or rinsate.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Not for use at or immediately before planting in hopper-box, planter-box, or by any other non-commercial seed treatment applications.

PRODUCT INFORMATION

The seed treatment SUBTILEX® NG contains bacteria that colonize on the developing root system and suppress disease organisms that attack root systems (e.g. *Fusarium* and *Rhizoctonia*). Protection against root and soil borne pathogens is extended throughout the growing season as bacteria grow with the roots. As a result of this biological protection, vigorous root and shoot systems are established by plants arising from treated seed, resulting in more uniform stands and greater yields.

In addition, when used on seed of many legumes SUBTILEX® NG has been shown to increase the amount of nodulation by nitrogen-fixing bacteria. This improvement in nodulation is a result of a healthier root system allowing more sites for nodules to form from inoculated or naturally occurring soil borne nitrogen-fixing bacteria.

FOR COMMERCIAL SEED TREATMENT

Apply SUBTILEX® NG as a water-based suspension alone or with other seed treatment products (fungicides, insecticides, nematicides, fertilizers, etc.) through standard slurry or mist commercial seed treatment equipment. Additionally, *Rhizobium* inoculant products such as BASF's HiStick® L Liquid Rhizobium Inoculant can also be added to the tank mix.

Do not mix SUBTILEX® NG with any product containing a label prohibition against such mixing. When tank-mixing SUBTILEX® NG with any other registered seed treatment products, observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Do not exceed label dosage rates.

ATTENTION: If *Rhizobium* inoculants are to be used in the tank mix with other seed treatment products (fungicides, insecticides, nematicides, fertilizers, etc.), make sure that they are compatible (not harmful) to the *Rhizobium*. Likewise, use only chlorine-free water in the tank mix. If one or more products are not compatible (harmful), mix those products in and apply them from a separate mix tank.

To mix, first add the other seed treatment products (fungicides, insecticides, nematicides, fertilizers, inoculants) to the mix tank with approximately ½ of the amount of water required. (The total amount of water required is dependent on the particular commercial seed treatment equipment used). While stirring, slowly add the appropriate amount of SUBTILEX® NG to the mix tank. Add the remainder of the required water and keep stirring until a uniform suspension is obtained. The slurry/mixture is now ready for use. Be sure to apply constant agitation of the slurry during mixing and application to maintain uniform suspension. Do not store mixed slurries for longer than 72 hours.

COTTON

For suppression of root diseases caused by *Rhizoctonia* and *Fusarium* seedling diseases, and *Fusarium* wilt, apply at 0.25 – 1.0 oz (7.1 – 28.3 g) of SUBTILEX® NG per 100 lb (45 kg) of delinted cotton seed. Please consult BASF for additional information. Because smaller seed has a greater surface area than larger seed, the average size of the seed being treated influences the application rate. Therefore, apply SUBTILEX® NG at rates from the higher end of the stated application rate range when treating smaller seed.

Additionally, use the higher end of the stated application range when treated seed is to be planted in fields that historically experience severe disease pressure.

SOYBEANS

For suppression of root diseases caused by *Rhizoctonia* and *Fusarium*. For improvement of nodulation by *Bradyrhizobium japonicum*, add inoculant products (such as BASF's HiStick® L Liquid Rhizobium Inoculant). Apply 0.05 – 0.10 oz (1.4 – 3.0 g) of SUBTILEX® NG per 100 lb (45 kg) of soybeans. Because smaller seed has a greater surface area than larger seed, the average size of the seed being treated influences the application rate. Therefore, apply SUBTILEX® NG at rates from the higher end of the stated application rate range when treating smaller seed. Additionally, use the higher end of the stated application range when treated seed is to be planted in fields that historically experience severe disease pressure.

SEED AND POD VEGETABLES (SUCH AS GREEN BEANS, SNAP BEANS, LIMA BEANS, KIDNEY BEANS, NAVY BEANS, PINTO BEANS, WAX BEANS, POLE BEANS, GARDEN PEAS, PEAS, AND FIELD BEANS)

For suppression of root diseases caused by *Rhizoctonia* and *Fusarium*, or to improve nodulation by *Rhizobium* in fields where appropriate strains are detectable, apply 0.25 - 1.0 oz (7.1 - 28.3 g) of SUBTILEX® NG per 100 lb (45 kg) of seed. Because smaller seed has a greater surface area than larger seed, the average size of the seed being treated influences the application rate. Therefore, apply SUBTILEX® NG at rates from the higher end of the stated application rate range when treating smaller seed. Additionally, use the higher end of the stated application range when treated seed is to be planted in fields that historically experience severe disease pressure.

ALFALFA, FORAGE AND TURF GRASSES

For suppression of root diseases caused by *Rhizoctonia* and *Fusarium*, and for stimulation of germination and plant vigor, apply at a rate of 3.2 – 9.6 oz (91 – 272 g) of SUBTILEX® NG per 100 lb (45 kg) of seed. Because smaller seed has a greater surface area than larger seed, the average size of the seed being treated influences the application rate. Therefore, apply SUBTILEX® NG at rates from the higher end of the stated application rate range when treating smaller seed. Additionally, use the higher end of the stated application range when treated seed is to be planted in fields that historically experience severe disease pressure.

WHEAT AND BARLEY

For suppression of root diseases caused by *Rhizoctonia* and *Fusarium*, apply 0.05- 0.25 oz (1.42- 7.10 g) of SUBTILEX® NG per 100 lb (per 45 kg) of seed. Because smaller seed has a greater surface area than larger seed, the average size of the seed being treated influences the application rate. Therefore, apply SUBTILEX® NG at rates from the higher end of the stated application rate range when treating smaller seed. Additionally, use the higher end of the stated application range when treated seed is to be planted in fields that historically experience severe disease pressure.

CORN (Field and Sweet)

For suppression of root disease caused by *Fusarium*, apply 0.25-1.0 oz (7.1- 28.3 g) of SUBTILEX® NG per 100 lb (per 45 kg) of seed. Because smaller seed has a greater surface area than larger seed, the average size of the seed being treated influences the application rate. Therefore, apply SUBTILEX® NG at rates from the higher end of the

stated application rate range when treating smaller seed. Additionally, use the higher end of the stated application range when treated seed is to be planted in fields that historically experience severe disease pressure.

CANOLA

For suppression of root diseases caused by *Rhizoctonia* and *Fusarium*, apply 1.6-16 oz (45.4-454 g) of SUBTILEX® NG per 100 lb (per 45 kg) of seed. Because smaller seed has a greater surface area than larger seed, the average size of the seed being treated influences the application rate. Therefore, apply SUBTILEX® NG at rates from the higher end of the stated application rate range when treating smaller seed. Additionally, use the higher end of the stated application range when treated seed is to be planted in fields that historically experience severe disease pressure.

Conversion chart.

Teaspoons	Ounces
0.36 tsp	= 0.05 oz
$\frac{3}{4}$ tsp	= 0.1 oz
$1\frac{3}{4}$ tsp	= 0.25 oz
Tablespoons	Ounces
2.4 tbsp	= 1 oz
3.8 tbsp	= 1.6 oz

STORAGE AND DISPOSAL

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Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling: Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

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